

**WHAT IS CLAIMED IS:**

1 1. A method for recovering mesenchymal stem cells,  
2 comprising:  
3 (a) providing a mixture comprising mesenchymal stem  
4 cells;  
5 (b) seeding the mixture into a culture device; and  
6 (c) recovering and culturing the mesenchymal stem cells.

1 2. The method as claimed in claim 1, wherein said  
2 culture device comprises a plate with pores, wherein the  
3 pore size is sufficient for separating mesenchymal stem  
4 cells from other cells.

1 3. The method as claimed in claim 2, wherein the pore  
2 size ranges from about 0.4 to 40 microns in diameter.

3 4. The method as claimed in claim 1, wherein the  
4 mixture comprises cells selected from the group consisting  
5 of mammals, animals, and plants.

1 5. The method as claimed in claim 4, wherein the cells  
2 are selected from the group consisting of fractioned tissues,  
un-fractioned tissues, bloods, and body fluids.

1 6. The method as claimed in claim 5, wherein the mammal  
2 comprises human.

1 7. The method as claimed in claim 5, wherein the cells  
2 are selected from the group consisting of bone marrow,

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3 embryonic yolk sac, placenta, umbilical cord, and fetal,  
4 adolescent and adult body fluids and tissues.

1 8. The method as claimed in claim 1, wherein the  
2 mesenchymal stem cells have the capability of self-renewal  
3 and pluripotent differentiation

1 9. The method as claimed in claim 8, wherein the  
2 mesenchymal stem cells can differentiate into tissues  
3 comprising bone, adipose, or cartilage.

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1 10. The method as claimed in claim 8, wherein the  
2 mesenchymal stem cells are characterized by CD34<sup>+</sup>.

1 11. The method as claimed in claim 9, wherein the  
2 mesenchymal stem cells are cultured in DMEM-LG medium  
3 containing 10% fetal bovine serum.

1 12. An isolated mesenchymal stem cell recovered by the  
2 method as claimed in claim 1, which has the capability of  
3 self-renewal and pluripotent differentiation.

1 13. The mesenchymal stem cell as claimed in claim 12,  
2 which can differentiate into tissues comprising bone,  
3 adipose, or cartilage.

1 14. The mesenchymal stem cell as claimed in claim 12,  
2 which is characterized by CD34<sup>+</sup>.

1 15. A composition comprising the mesenchymal stem cell  
2 as claimed in claim 12 and a culture medium, wherein the  
3 medium expands the mesenchymal stem cell.

1           16. The composition as claimed in claim 15, wherein the  
2 mesenchymal stem cell is characterized by CD34<sup>+</sup>.

1           17. The composition as claimed in claim 15, wherein the  
2 medium comprises DMEM-LG medium containing 10% fetal bovine  
3 serum.

1           18. A pharmaceutical composition comprising the  
2 mesenchymal stem cell as claimed in claim 12 and a  
3 pharmaceutically acceptable carrier, wherein the mesenchymal  
4 stem cell is present in an amount sufficient to serve as  
5 tissue replacement or gene therapy for tissues damaged by  
6 age, trauma, and disease.

1           19. The pharmaceutical composition as claimed in claim  
2 18, wherein the mesenchymal stem cell can differentiate into  
3 tissues comprising bone, adipose, or cartilage.

1           20. The composition as claimed in claim 18, wherein the  
2 mesenchymal stem cell is characterized by CD34<sup>+</sup>.

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